

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 54 (Cancelled).

55 89. (Previously Presented) An end cap for a filter device comprising:
a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first direction; and
at least one member extending from and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

56 90. (Previously Presented) The end cap of claim 55 89, wherein the filter device is a dialyzer.

57 91. (Previously Presented) The end cap of claim 56 90, wherein the end cap is attachable to a casing of the dialyzer.

58 92. (Previously Presented) The end cap of claim 55 89, wherein the channel is a blood inlet channel.

59 93. (Previously Presented) The end cap of claim 56 90, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

60 94. (Previously Presented) The end cap of claim 59 93, wherein the first direction is a direction that is axial relative to the direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

61 95. (Previously Presented) The end cap of claim 56 90, wherein the second direction is a direction that is radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

62 96. (Previously Presented) The end cap of claim 55 89, wherein the at least one member is arranged circumferentially around the channel.

63 97. (Previously Presented) The end cap of claim 55 89, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

64 98. (Previously Presented) The end cap of claim 55 89, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

65 99. (Previously Presented) The end cap of claim 55 89, wherein the at least one member is integrally formed with the end cap.

66 400. (Previously Presented) The end cap of claim 55 89, wherein the at least one member is curved.

67 404. (Previously Presented) The end cap of claim 55 89, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

68 402. (Previously Presented) The end cap of claim 67 404, wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

69 403. (Previously Presented) A filter device comprising:
a casing for housing a filter element;
an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a

fluid flow path in a first direction, and at least one member extending from and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

70 404. (Previously Presented) The filter device of claim 69 403, wherein the filter device is a dialyzer.

71 405. (Previously Presented) The filter device of claim 69 403, wherein the channel is a blood inlet channel.

72 406. (Previously Presented) The filter device of claim 70 404, wherein the filter element is a hollow fiber bundle.

73 407. (Previously Presented) The filter device of claim 72 406, wherein the first direction is a direction that is non-radial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

74 408. (Previously Presented) The filter device of claim 72 406, wherein the first direction is a direction that is axial relative to the direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

75 409. (Previously Presented) The filter device of claim 72 406, wherein the second direction is a direction that is radial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

76 410. (Previously Presented) The filter device of claim 69 403, wherein the at least one member is arranged circumferentially around the channel.

77 444. (Previously Presented) The filter device of claim 69 403, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

78 442. (Previously Presented) The filter device of claim 69 403, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

79 443. (Previously Presented) The filter device of claim 69 403, wherein the at least one member is integrally formed with the end cap.

80 444. (Previously Presented) The filter device of claim 69 403, wherein the at least one member is curved.

81 445. (Previously Presented) The filter device of claim 69 403, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

82 446. (Previously Presented) The filter device of claim 81 445, wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

83 447. (Previously Presented) An end cap for a filter device comprising:
a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap; and

at least one member extending from and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

84 448. (Previously Presented) The end cap of claim 83 447, wherein the filter device is a dialyzer.

85 449. (Previously Presented) The end cap of claim 84 448, wherein the end cap is attachable to a casing of the dialyzer.

86 420. (Previously Presented) The end cap of claim 83 417, wherein the channel is a blood inlet channel.

87 421. (Previously Presented) The end cap of claim 83 417, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

88 422. (Previously Presented) The end cap of claim 84 418, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

89 423. (Previously Presented) The end cap of claim 84 418, wherein the first direction is a direction that is axial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

90 424. (Previously Presented) The end cap of claim 83 417, wherein the at least one member is arranged circumferentially around the channel.

91 425. (Previously Presented) The end cap of claim 83 417, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

92 426. (Previously Presented) The end cap of claim 83 417, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

93 427. (Previously Presented) The end cap of claim 83 417, wherein the at least one member is integrally formed with the end cap.

94 428. (Previously Presented) The end cap of claim 83 417, wherein the at least one member is curved.

95 429. (Previously Presented) The end cap of claim 83 447, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

96 430. (Previously Presented) The end cap of claim 95 429, wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

97 434. (Previously Presented) A filter device comprising:
a casing for housing a filter element;
an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first direction, and at least one member extending from and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

98 432. (Previously Presented) The filter device of claim 97 434, wherein the filter device is a dialyzer.

99 433. (Previously Presented) The filter device of claim 97 434, wherein the channel is an inlet channel.

100 434. (Previously Presented) The filter device of claim 97 434, wherein the filter element is a hollow fiber bundle.

101 435. (Previously Presented) The filter device of claim 97 434, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

102 436. (Previously Presented) The filter device of claim 101 435, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

103 437. (Previously Presented) The filter device of claim 98 432, wherein the first direction is a direction that is axial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

104 438. (Previously Presented) The filter device of claim 97 434, wherein the at least one member is arranged circumferentially around the channel.

105 439. (Previously Presented) The filter device of claim 97 434, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

106 440. (Previously Presented) The filter device of claim 97 434, wherein the at least one member is integrally formed with the end cap.

107 441. (Previously Presented) The filter device of claim 97 434, wherein the at least one member is curved.

108 442. (Previously Presented) The filter device of claim 97 434, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

109 443. (Previously Presented) The filter device of claim 108 442, wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

110 444. (Previously Presented) A hemodialyzer device comprising:
a casing forming a housing, the casing having a blood outlet channel;
a hollow fiber bundle stored within the casing;
an end cap attachable to the casing, the end cap including a blood inlet channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first direction, and
a plurality of curved members extending from and located within the interior chamber of the end cap, the at least one member defining, for a fluid exiting the channel and

flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

111 ~~145~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

112 ~~146~~. (Previously Presented) The hemodialyzer device of claim 111 ~~145~~, wherein the first direction is a direction that is non-radial relative to the casing.

113 ~~147~~. (Previously Presented) The hemodialyzer device of claim 112 ~~146~~, wherein the first direction is a direction that is axial relative to the casing.

114 ~~148~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein the second direction is a direction that is radial relative to the casing.

115 ~~149~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein the plurality of members are arranged circumferentially around the channel.

116 ~~150~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein the plurality of members extend towards a perimeter of the interior chamber of the end cap.

117 ~~151~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein the plurality of members are arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

118 ~~152~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein the plurality of members are integrally formed with the end cap.

119 ~~153~~. (Previously Presented) The hemodialyzer device of claim 110 ~~144~~, wherein respective portions of each one of the plurality of members are spaced equidistantly relative to each other.

120 454. (Previously Presented) The hemodialyzer device of claim 119 453, wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

121 455. (Previously Presented) A method for filtering a fluid, comprising the steps of:

passing the fluid through a filter device, the filter device including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first direction, and at least one member extending from and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

122 456. (Previously Presented) The method of claim 121 455, wherein the step of passing the fluid through the filter device involves passing blood through the filter device.

123 457. (Previously Presented) The method of claim 122 456, wherein the step of passing blood through the filter device involves passing blood through a dialyzer.

124 458. (Previously Presented) A method for filtering a fluid, comprising the steps of:

passing the fluid through a filter device, the filter device including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, and at least one member within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

125 459. (Previously Presented) The method of claim 124 458, wherein the step of passing the fluid through the filter device involves passing blood through the filter device.

126 460. (Previously Presented) The method of claim 125 459, wherein the step of passing blood through the filter device involves passing blood through a dialyzer.